

1.0 Need for and Purpose of Action

1.1 Introduction

The Bonneville Power Administration's (BPA) existing Santiam-Chemawa No. 1 230-**kilovolt*** (kV) transmission line is about 25 miles long and is located in Linn and Marion counties in Oregon. BPA's Santiam-Chemawa No.1 transmission line serves BPA customers that in turn serve communities in the Willamette Valley. This line provides **voltage** support and also backs up BPA's 500-kV transmission system in case one of BPA's 500-kV lines or substations goes out of service.

BPA is proposing to rebuild the first 17 miles of the Santiam-Chemawa transmission line from Santiam Substation to the line's connection (**tap**) to Portland General Electric's (PGE) Bethel Substation. (See Map 1.) The Santiam-Chemawa transmission line parallels BPA's Marion-Santiam 500-kV Nos. 1 and 2 transmission lines from Santiam Substation to BPA's Marion Substation. BPA would replace the existing **single-circuit** Santiam-Chemawa 230-kV line with towers that could support two circuits (**double circuit**). The existing line supplies both Bethel Substation and BPA's Chemawa Substation. The new lines would eliminate overloading of the existing line from Santiam Substation to the tap to Bethel Substation by having one new line supply Bethel Substation and the other new line supply Chemawa Substation.

BPA originally proposed a new transmission line next to an existing 230-kV line. As a result of the comments received during the scoping period, the proposal was changed. BPA is now proposing a double-circuit line instead of a single-circuit line. (See Section 2.3.)

1.2 Underlying Need for Action

BPA's underlying need for action is to improve transmission system reliability in the Salem area of northwestern Oregon. The existing BPA Santiam-Chemawa 230-kV transmission line is at risk of **overloading** during peak winter electrical power usage (maximum demand). During normal and extreme winter peak **load** conditions, outages on BPA's 500-kV or 230-kV transmission grid in the area could cause the Santiam Substation to Bethel Substation section of the Santiam-Chemawa line to overload. For example, an outage of BPA's Pearl-Marion No.1 500-kV line during extreme cold winter peak load conditions could cause the line to overload. During normal winter peak load conditions, an outage of BPA's Santiam-Albany No.1 230-kV line or an outage of BPA's Albany 230/115-kV transformer would also overload the line. (See Map 1.)

*Words in bold are defined in the glossary. See Section 7.

An overload could damage electrical equipment sensitive to power fluctuations. An overload could cause the line to sag too close to the ground, which could harm people or property under the line. In addition, an overload could cause switches on the Santiam-Chemawa line to automatically take the line out of service, which could create blackouts in the Salem area. Overloading the line could also cause permanent damage to the **conductor** (the wires that carry current in a transmission line) and BPA would be required to remove the line from service. Removing the line from service could curtail electrical power in the area.

1.3 Purposes

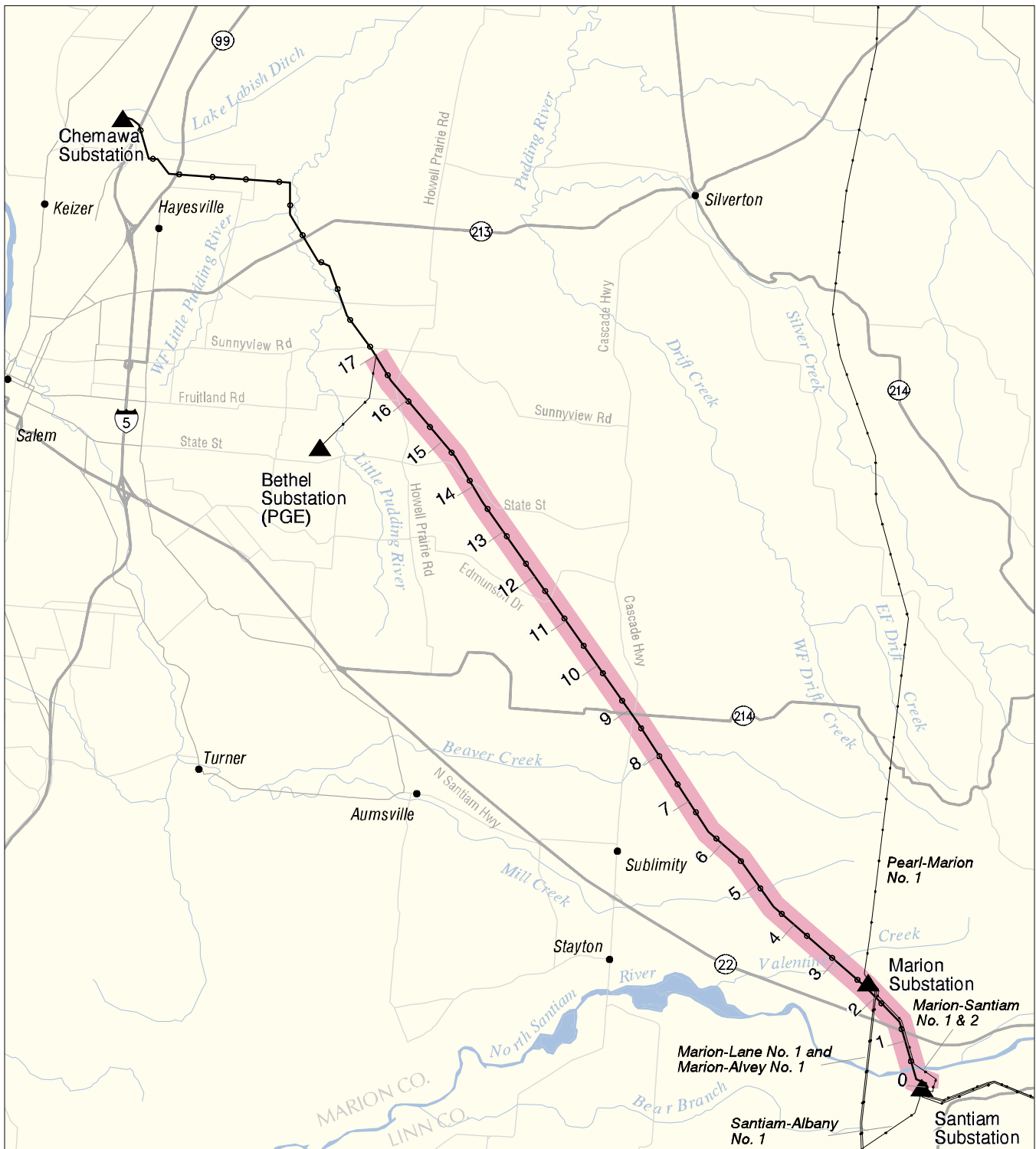
The purposes in the “purpose and need” statement are goals to be achieved while meeting the need for the project. In satisfying the underlying need, BPA wants to achieve the following purposes:

- Minimize environmental impacts
- Minimize costs
- Improve transmission system reliability.

1.4 Public Involvement

On November 20, 2000, BPA sent a letter to people potentially interested in or affected by the proposed Santiam-Bethel Transmission Line Project. This letter explained the proposal, the environmental process, and how to participate in the process. BPA originally proposed a new transmission line next to an existing 230-kV line. BPA received comments on the proposal by phone, e-mail, and letter. In addition, BPA received comments at a public meeting held in Sublimity, Oregon, on December 11, 2000. Most comments focused on the initial proposal and its likely environmental impacts. As a result of the comments received, the proposal was changed. BPA is now proposing a double-circuit line instead of a single-circuit line. (See Sections 2.1 and 2.3.)

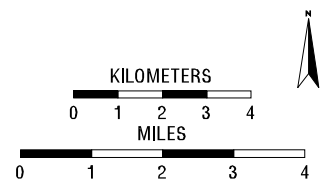
SANTIAM - BETHEL TRANSMISSION LINE PROJECT



September 24, 2001



- 4 - Mileage Marker
- ▲ Substation
- Road/Highway
- Santiam-Chemawa No. 1 Transmission Line
- Existing Transmission Line
- Proposed Double-Circuit Line



Map 1